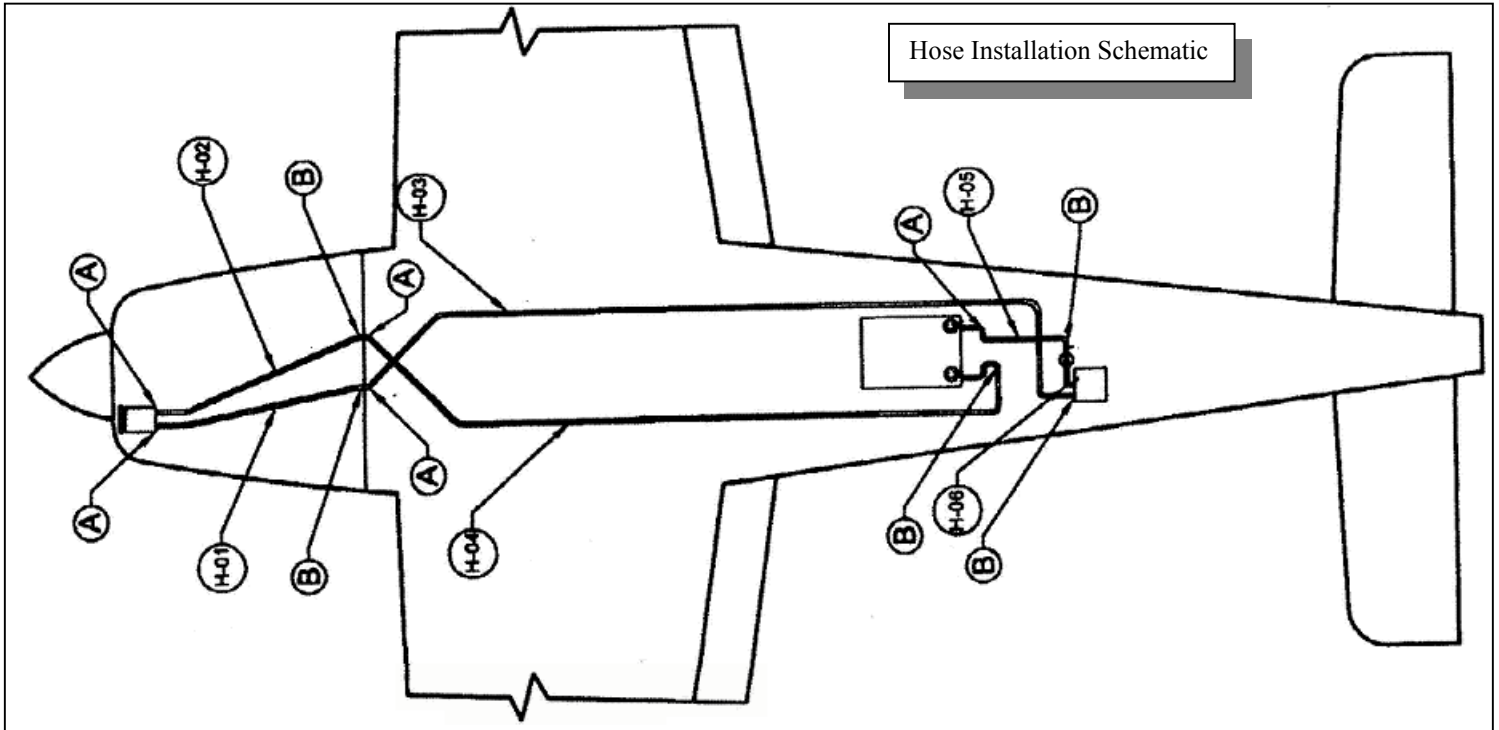


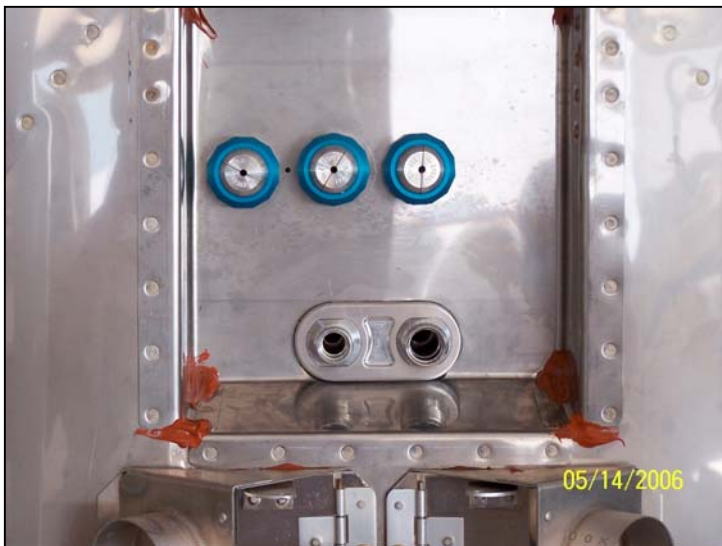
Freon Hose Routing

Airflow provides all Freon hoses and hose fittings required for the air conditioning system. The hoses are numbered and correspond to hose positions shown on the installation schematic.

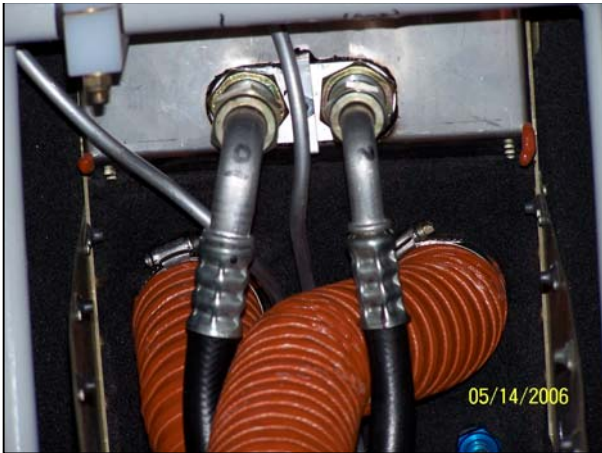
My engine has not been installed yet, so the hoses for the compressor are not shown.



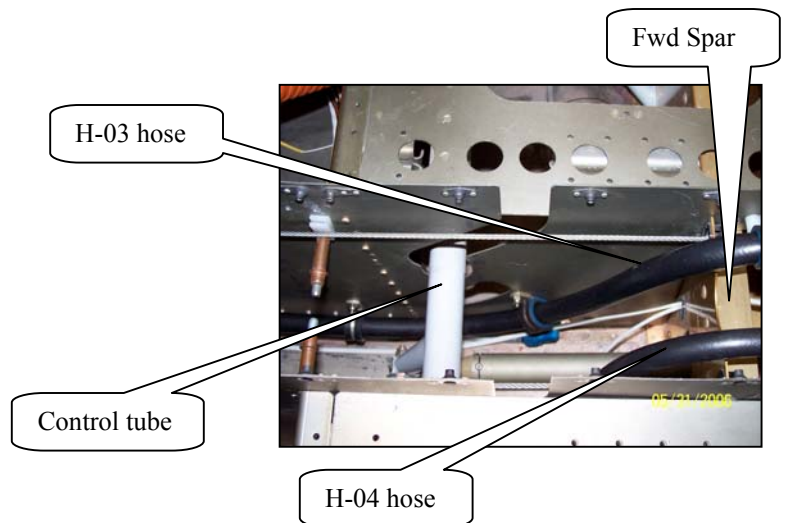
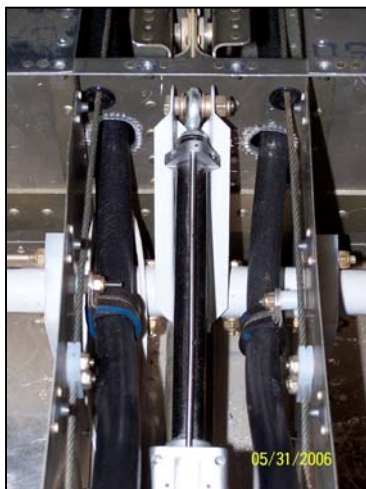
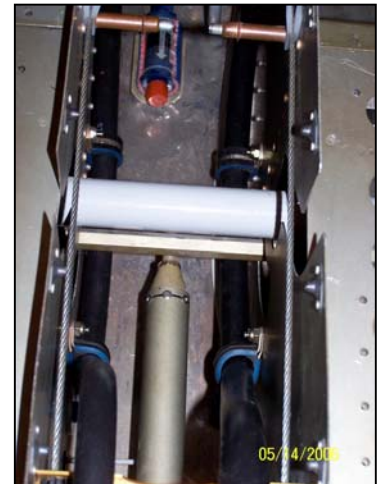
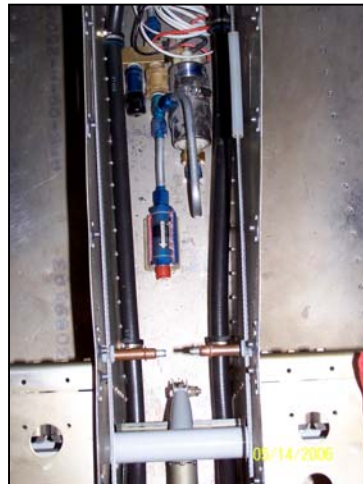
When I installed the hoses in my aircraft, the firewall bulkhead fittings were not available. The bulkhead fittings provided in the kit are 45-degree steel fittings. I used 90-degree fittings with a custom firewall bulkhead plate. The bulkhead fitting was installed in the lower center of the firewall well. This is the same location for the 45-degree fittings provided in the kit.



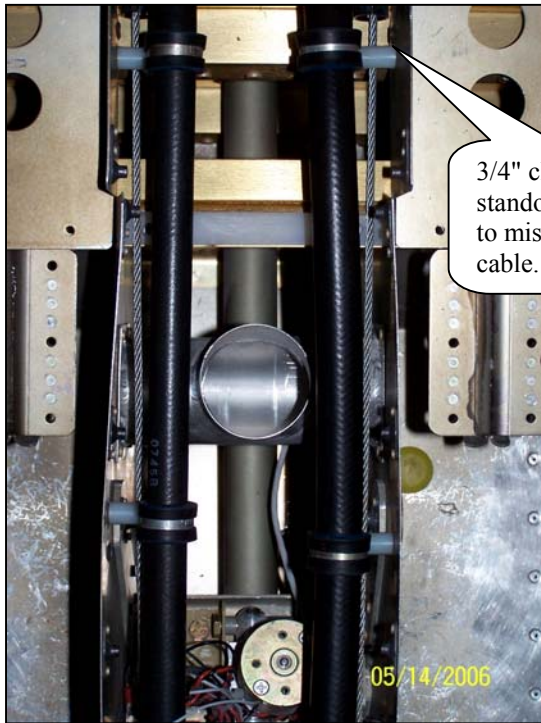
The 90-degree fittings attach to the back of the bulkhead fitting. The H-03 and H-04 hoses clear the forward cabin heater hose for and support and hold the aft cabin heat hose in the center of the tunnel. You may notice that the picture on the right shows the rudder cables running on the inside of the tunnel. This is a modification I made to my aircraft shown on this web site. The hose routing will clear the standard rudder cable routing also.



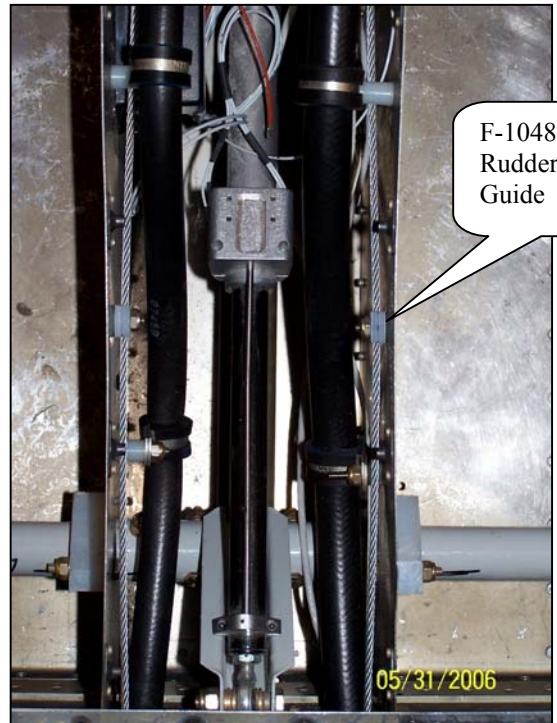
MS21919DG-xx clamps were used on the hose routing forward of the aft spar. I used MS21919DG13 clamps on the H-03 hose and MS21919DG-11 clamps on the H-04 hose. The hoses were routed along the bottom of the tunnel then angled up aft of the control tube and over the forward spar.



Running the hoses over the forward spar will require you to use 3/4" standoff spacers to move the hoses inward away from the rudder cable and tunnel cover attach screws. The hose position with the spacers allows enough room for the aft cabin heat duct to install on the aft heat outlet. Two F-1048G Rudder Cable Guides were used to provide clearance between the cable and the Freon hoses. The top of the pictures is facing the front of the aircraft.

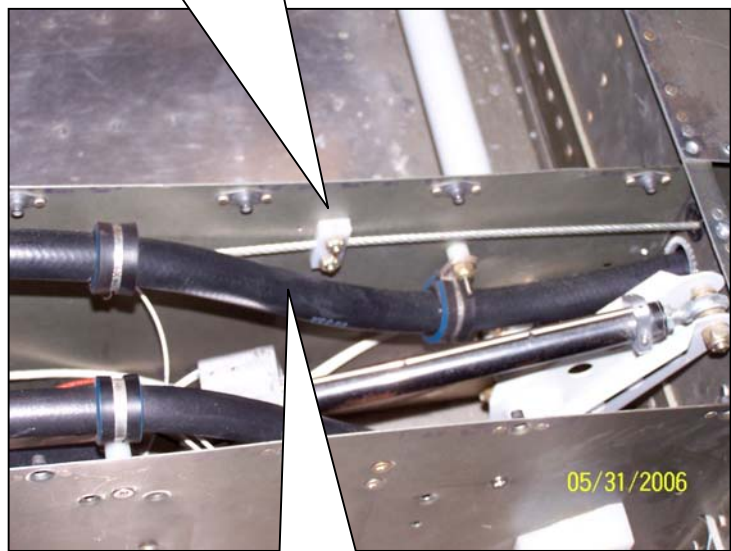


3/4" clamp
standoffs required
to miss rudder
cable.



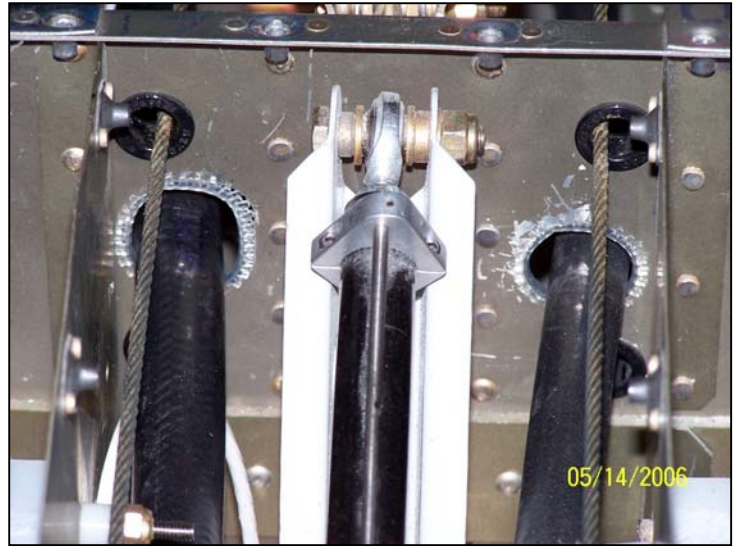
F-1048G
Rudder Cable
Guide

I used an F-1048G Rudder Cable Guide on each cable to guide the cable away from the Freon hoses.

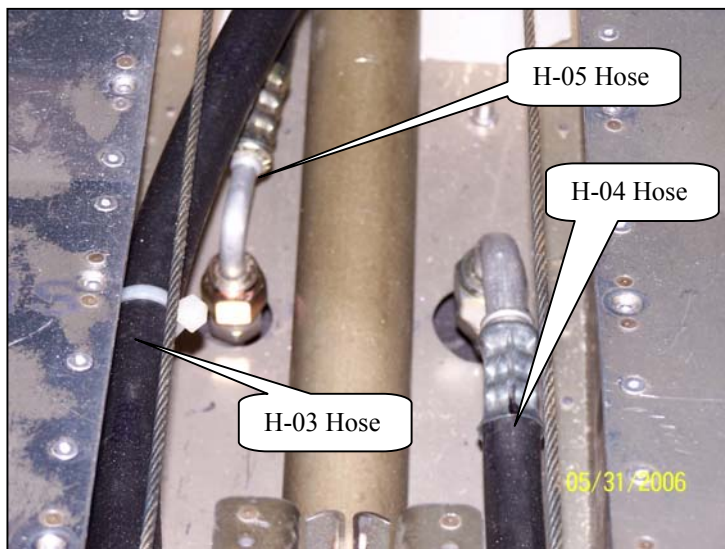
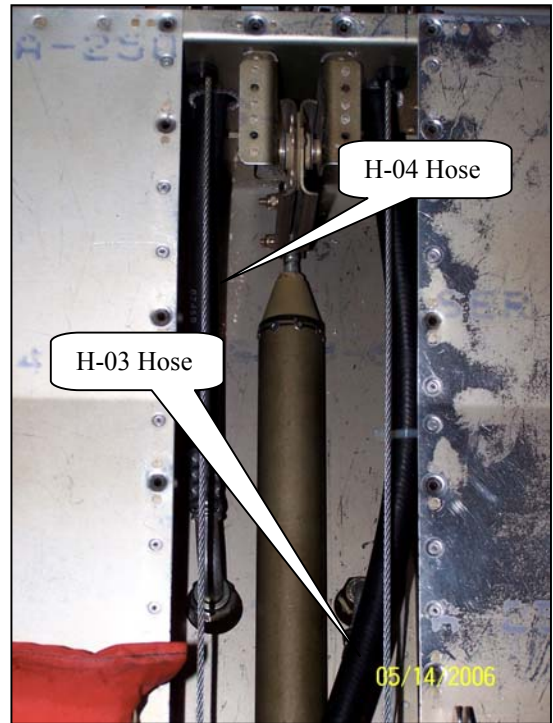


The hoses are routed
down toward the bottom
of the aft spar.

I checked with Van's tech support about routing the hoses through the aft spar. The spar's integrity is not violated if the 1" holes are located in the spar webbing. The holes also should not encroach on any angles or the spar itself. You could also route the hoses over the aft spar. You would need a cover to hide the hoses.

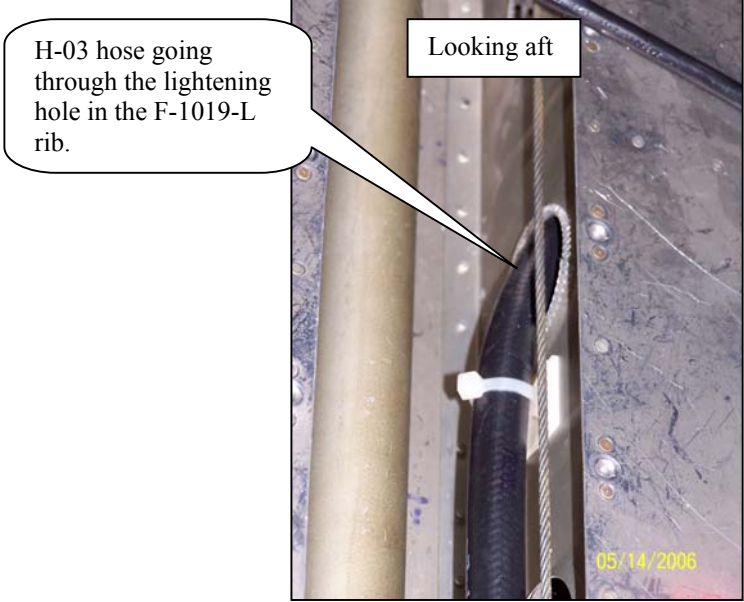
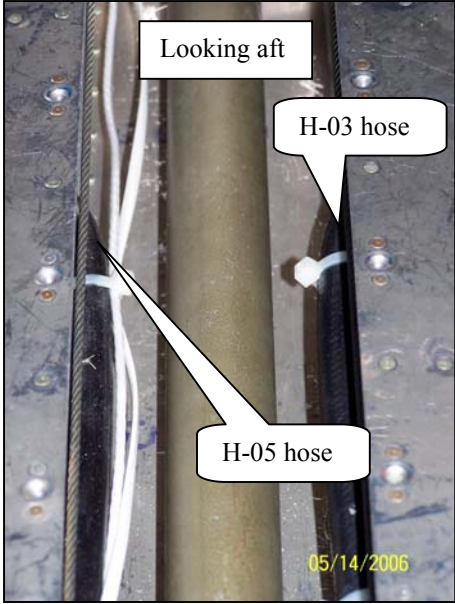
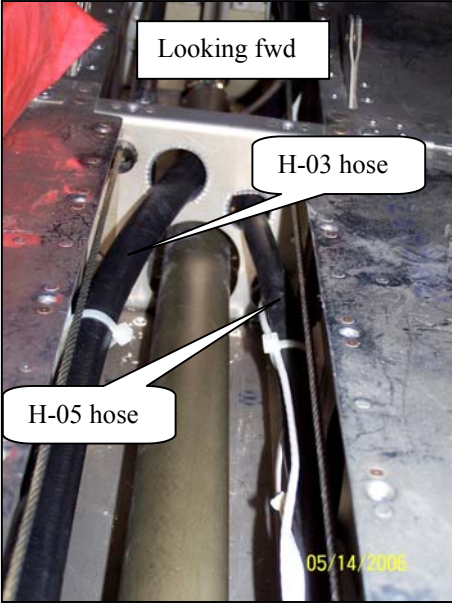


The condenser Z-Fittings are located just aft of the spar. The H-04 hose attaches to the left Z-Fitting with a 90-degree hose fitting. The H-03 hose continues its routing aft toward the evaporator. The H-05 hose can be seen below the H-03 hose. The H-05 hose comes from the receiver/dryer and attaches to the right condenser Z-fitting with a 90-degree hose fitting.



Pictures of the Z-Fittings are available on the condenser link.

Aft of the spar I used adhesive mount tie-wrap pads. The compact size of the pad and the tie-wrap were more suited in this area instead of MS21919DG-xx clamps. The H-03 and continues along the F-1019-L rib to the 2nd lightening hole fwd of the F-1006 bulkhead assembly. At this point the H-03 hose goes into the lightening hole then out a lightening hole in the F-1006 bulkhead assembly. The H-05 hose continues along the F-1019-R rib to the 2nd lightening hole fwd of the F-1006 bulkhead assembly and goes through the hole as the H-03 hose did.



After the H-03 hose goes through the lightening hole in the F-1006 bulkhead assembly and moves up towards the top fitting of the evaporator. The H-05 hose goes through the lightening hole of the F-1006 bulkhead assembly and moves towards the F-1028 Baggage Bulkhead Channel. The hose moves up the channel to the right (aircraft right) side of the receiver/dryer.

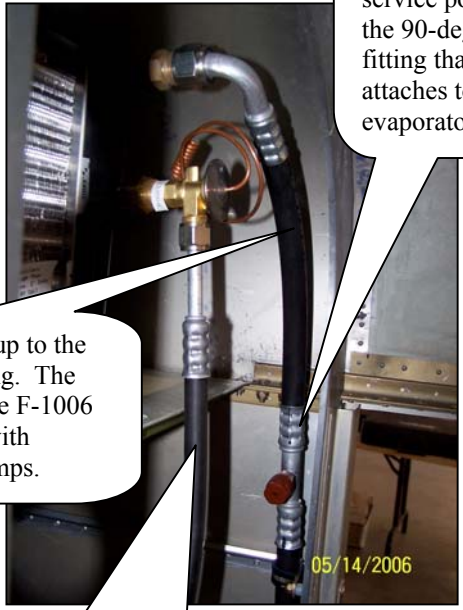
I routed the H-03 and H-05 hoses to allow easier access to the empennage.

This service port fitting is not used in the kit. The service port is on the 90-degree fitting that attaches to the top evaporator fitting.

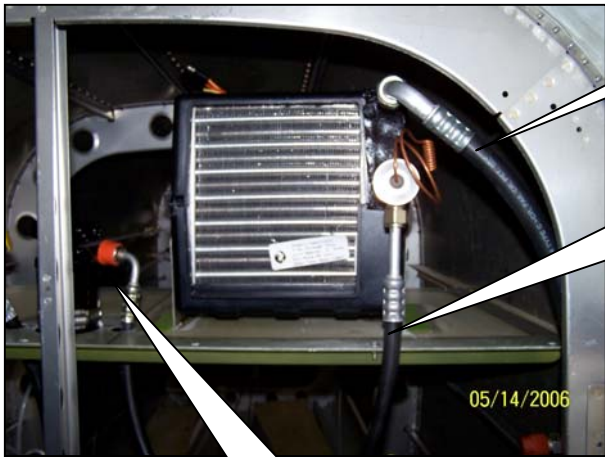
H-03 hose comes out of lightening hole and turns toward the left side of the aircraft.



The H-03 hose goes up to the evaporator's top fitting. The hose is clamped to the F-1006 bulkhead assembly with MS21919DG-13 clamps.



H-06 hose attaches to the lower evaporator fitting and routes to the left side of the receiver/dryer.



H-03 hose

H-06 hose routes from the lower evaporator fitting to the left side fitting of the receiver/dryer.

H-06 hose and receiver/dryer

Receiver/Dryer
Orientation arrow on top should point to aircraft right.

H-05 hose routing from F-1006 lightening hole to the receiver/dryer. The hose is clamped along the F-1028 Baggage Bulkhead Channel.

